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Three New Genera and Eight New Species of Western Millipeds

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The types of the new millipeds described in the present paper are deposited at present in the author's collection at the University of Utah.

Family POLYZONIIDAE

Genus *Euzonium*, new

Differing from other members of its family, excepting *Buzonium*, in having the legs well separated instead of being contiguous or subcontiguous, and from *Buzonium* in having the last segment covered by the penult tergite, in not having the antennae and first two pairs of legs crassate, and in having the head acutely produced below. Eyes present, typically three ocelli in a single series on each side. Antennae pigmented. Body narrowed anteriorly from about the seventh segment, and with the first tergite much wider than the head which it covers from above.

Orthotype: *Euzonium crucis*, new species.

Euzonium crucis, new species

Dorsum with a broad, dark brown or nearly black, median longitudinal stripe bordered on each side with a narrow yellow stripe, outside of which is a broader light reddish brown stripe. Antennae tinged with purple as are also the legs on their more distal joints.

First tergite concealing the head in dorsal view, its anterior margin evenly convex. Lateral margins of anterior keels from the first caudad to the seventh or eighth forming an evenly convex line. Surface of tergites smooth.

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Penult tergite broad, with caudal margin widely truncate, being but weakly incurved or nearly straight; completely covering the anal segment.

Number of segments in the holotype, 34. Length, 9 mm.; width, 2.8 mm.

Type locality: California; Santa Cruz County, Felton. One specimen taken under a piece of redwood log, Feb. 6, 1949, by Paul H. Arnaud, Jr.

Genus *Pizonium*, new

Related to *Buzonium* but the first two pairs of legs not crassate and the third joint of antennae longer than either of the next two which are subequal to each other and shorter than the sixth. Ocelli three on each side instead of two.

Orthotype: *Pizonium crescentis*, new species.

Pizonium crescentis, new species

Dorsum reddish brown over middle, a stripe along each side yellow. Legs and antennae yellow.

Clypeus and labrum widened and rounded below much as in species of *Buzonium*. Ocelli three on each side, these forming an oblique, curved row, the concavity being on the mesodorsal side. Antennae subcylindrical, thickening but little distad; shorter than the width of the first segment.

First tergite with anterior margin straight across middle portion; caudal margin somewhat arcuate. Subsequent tergites evenly convex from side to side, the subsegments sharply separated by a transverse groove which is crossed at its bottom by a series of short longitudinal striae, the surface in general smooth and shining. The last tergite freely exposed, its caudal margin strongly convex, the caudal margin of the preceding segment deeply concave at middle.

Length, about 35 mm.; width, 4 mm.

Type locality: California; about 15 miles east of Crescent City, in redwood forest.

One female was taken with a cluster of her eggs on July 11, 1946, by S. and D. Mulaik. There were some 40 eggs in the cluster.

Genus *Bdellozonium* Cook and Loomis

Bdellozonium rothi, new species

Seeming to be distinct from the previously known species in the smaller number of body segments which is from 33 to 38 as against from 39 to 46 in *cerviculatum* and 40 in *sequoium*.

Dorsum red or brownish red, with a yellow stripe along each lateral border as in *sequoium.* Ventral surface and legs yellow, the antennae dark brown.

The collum differs in having the anterior margin incurved at the middle. Collum wholly covering the head from above and concealing the upper one or two ocelli in anterior view.

In contrast with *sequoium,* in which the eye rows are nearly transverse, with the mesal ends above the level of the antennal sockets, in the present species these rows are very oblique, with the inner ends lying lower and between the antennae. Ocelli 3 or 4 on each side, in the latter case, the fourth, at the lower end of the series, being typically reduced in size. Antennae relatively thicker than in *sequoium,* with the sixth article proportionately shorter, the third, fourth and fifth articles not much differing from each other in length. Head between bases of antennae relatively narrower than in *sequoium,* with the lower end narrowly rounded.

Length, 7 to 9.5 mm.; maximum width, 3 mm.

Locality: Oregon; 14 mi. w. of Grant's Pass. Six specimens taken May 24, 1948, by V. Roth. The orthotype is an adult male.

Family ANDROGNATHIDAE

Genus *Stenocybe,* new

Releted to *Brachycybe,* but the keels notably narrower and laterally incised at middle, with the prominent seriate tubercles of dorsum not extending upon the keels. Prozonites partly exposed from above. First tergite partly tuberculate and with keels. Antennae clavate, with sixth article much the longest, the smaller seventh article in the form of a truncate cone. Head blunt and very obtusely angular below. Ocelli absent. Anal segment exposed between keels of the penult tergite.

Orthotype: *Stenocybe waipea,* new species.

Stenocybe waipea, new species

General color yellowish brown.

Head fully exposed from above; scarcely produced below, the lower margin obtusely angular at middle.

First tergite not at all overlapping the head, its keels laterally entire and convexly rounded, a little produced forward; dorsally with three transverse rows of conspicuous tubercles.

The following tergites with two transverse series of elevated, mostly more or less laterally compressed tubercles, the series extending to the base of keels but not upon them, mostly with twelve tubercles in the anterior row

and ten in the posterior. Keels of the second to fifth segments inclusive with lateral margins convexly rounded and entire. Keels of sixth segment laterally weakly notched, those of the subsequent ones with notches deeper and acute.

Keels of penult segment directed caudad, their inner margins parallel, the intervening area occupied by the fully exposed anal tergite.

Length of holotype, about 24 mm.; width, near 1.4 mm.

Type locality: California; Squaw Creek. One specimen taken Aug. 15, 1937, by R. V. Chamberlin.

Genus *Eucybe* Chamberlin
Eucybe longior, new species

Distinguished from *E.* *clara* **in** its greater length and more numerous segments, the number being usually 70 or above as against 55 in the type of *clara.*

Typically with a strongly marked longitudinal median dorsal black stripe which extends upon the head as far down as the upper border of the clypeus where it is furcate, the branches being short.

First tergite with lateral margins of keels thickened or raised as in the following tergites; crossed with two series of conspicuous tubercles. On the ordinary tergites there are also two transverse series of laterally compressed tubercles or short keels; the tubercles of the posterior series sometimes rather more weakly developed over the middle portion of the series.

Number of segments, 65-75.

Length, up to 25 **mm.;** width, 1.4 mm.

Type locality: California; 12 mi. n. e. of Hammond. Many specimens **taken Mar.** 21-22, 1941 by S. and **D.** Mulaik.

Other locality: California; 7 mi. n. of Glenville. Three specimens taken Mar. 19, 1941, by S. and D. Mulaik.

Family PARAIULIDAE
Genus *Sophiulus* Chamberlin
Sophiulus tuolumnus, new species

A small, light brown species quite distinct from the other two known species of the genus in details of the gonopods of the male, particularly the posterior pair. In these the outer or tibial branch, which carries the seminal canal, is expanded in laminate form proximad of the evenly curved, transversely placed terminal stylus. The median tibial branch is furcate at **its** tip into two slender, acutely tipped branches, this being a distinctive character. The mesal branch, apparently representing the tarsus, is characteristically

notched at base of the acuminate apical portion. See further Figure 1.

Diameter of male holotype, 0.8 mm.

Locality: California; Tuolumne Co., Pinecrest. Six specimens taken by Paul H. Arnaud, Jr.

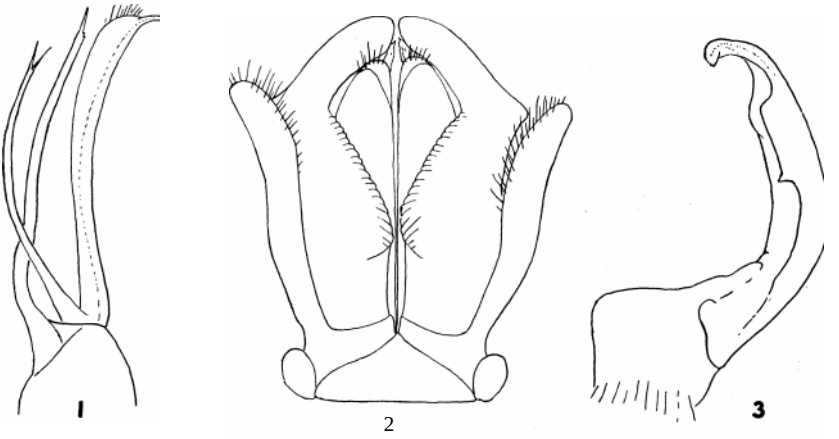

Figure 1. *Sophiulus tuolumnus,* n. sp. Gonopods *of* male, anterior view.

Figure 2. *Uroblaniulus idahoanus,* n. sp. Right posterior gonopod, submesal view.

Figure 3. *Atopetholus pearcei,* n. sp. Left posterior gonopod, caudal view.

Genus *Uroblaniulus* Attems

Uroblaniulus idahoanus, new species

In size rather small, like the other known species of the genus. Nearly black in color, with the legs light brown. The cauda long, evenly decurved beyond the anal valves.

Readily distinguishable by details in the structure of the gonopods of the male. Of these the anterior ones are characteristically different from those of the other known species in the large size of the telopodite and its distinct geniculation distad of the middle, its terminal portion arching mesodistad below the anterior lobes of the posterior gonopods. The posterior gonopods are broad and laminate, the laminae meeting along the median line; the median distal lobe setose and readily visible in cephalic view, behind the anterior lobes. See further Figure 2.

Number of segments, 62.

Width, 1.4 mm.

Locality: Idaho; Clearwater County, Pierce. One male taken April 9, 1949.

Family RHINOCRICIDAE
Genus *Rhinocricus* Brolemann
Rhinocricus simulatus, new name

Rhinocricus simulans Chamberlin, *1947,* Proc. Acad. Sci. Philadelphia, *p. 39, fig. 33-35* (Name preoccupied by *R. simulans* Chamberlin, *1922,* Proc. U. S. Nat. Mus., vol. 60, art. 8, p. 22).

Family ATOPETHOLIDAE
Genus *Atopetholus* Chamberlin
Atopetholus pearcei, new species

Body in general olivaceous, with the posterior borders of the tergites darker, black or nearly so. Antennae and legs black.

Collum with lateral ends bent a little caudad and apically rounded- The raised posterior border of other tergites crossed on sides and below by a series of rather deep longitudinal striae. Surface of tergites in general finely and subdensely punctate.

First two pairs of legs crassate and with claws enlarged; claws of the several following pairs gradually decreasing to normal length.

The sternite of the anterior gonopods with its distal margin forming a wide obtuse re-entrant angle. The posterior gonopods nearest in form to those of *A. fraternus* Chamberlin, but differing in details, such as in the smaller, almost obliterated anterior marginal lobe and in the tooth at proximal end of the posterior marginal lobe, this being acute and directed nearly at right angles to the long axis of the telopodite instead of being blunt and directed proximad parallel with the axis. See further Figure 3.

Number of body segments, 47.

Length, *53-60* mm.; diameter, 5-6 mm.

Locality: California; Kern County, Oildale. Many specimens taken Jan. *19, 1950* by W. M. Pearce.

A. fraternus is a somewhat smaller and blacker form than the present species.

Natural History Miscellanea, a series of miscellaneous papers initiated in 1946 as an outlet for original articles, more or less technical in nature, one to four pages in length, in any field of natural history. Individual issues, published at irregular intervals, are numbered separately and represent only one field of specialization; e. *g.,* botany, geology, entomology, herpetology, etc. The series is distributed to libraries and scientific organizations with which the Academy maintains exchanges. A title page and index will be supplied to these institutions when a sufficient number of pages to form a volume have been printed. Individual specialists with whom the museum or the various authors maintain exchanges receive those numbers dealing with their particular fields of interest. A reserve is set aside for future exchanges and a supply of each number is available for sale at a nominal price. Authors may obtain copies for their personal exchanges at the prevailing rates for similar reprints.

H. K. Gloyd, Director.